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**REQUEST
FOR
CONTINUED EXAMINATION (RCE)
TRANSMITTAL**

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	09/413,552
Filing Date	October 6, 1999
First Named Inventor	Douglas A. Hawks
Art Unit	2831
Examiner Name	Ngo, H.
Attorney Docket Number	050324-1160

This is a Request for Continued Examination (RCE) under 37 C.F.R. §1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 C.F.R. 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 C.F.R. §1.114**

- a. ☐ Previously submitted
- i. ☐ Consider the amendment(s)/(reply under 37 C.F.R. §1.116 previously filed on
(Any unentered amendment(s) referred to above will be entered)
- ii. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on
- iii. ☐ Other:
- b. ☒ Enclosed
- i. ☒ Amendment/Reply
- ii. ☐ Affidavit(s)/Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☐ Other:

2. **Miscellaneous**

- a. ☐ Suspension of action on the above-identified application is requested under 37 C.F.R. §1.103(c) for a period of months. (Period of suspension shall not exceed 3 months; Fee under 37 C.F.R. §1.17(i) required).
- b. ☐ Other:

3. **Fees** The RCE fee under 37 C.F.R. §1.17(e) is required by 37 C.F.R. §1.114 when the RCE is filed.

- a. ☐ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No.
- i. ☒ RCE fee required under 37 C.F.R. §1.17(e) in the amount of 740.00.
- ii. ☒ Extension of time fee (37 C.F.R. §1.136 and 1.17) (one months EOT) in the amount of 55.00.
- iii. ☐ Other:
- b. ☐ Check in the amount of \$ enclosed.
- c. ☒ Payment by credit card (Form PTO-2038 enclosed).

Warning: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED			
Name (Print Type)	Scott A. Horstemeyer	Registration No. (Attorney/Agent)	34,183
Signature	<i>Scott A. Horstemeyer</i>	Date	09/25/03
CERTIFICATE OF MAILING OR TRANSMISSION			
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.			
Name (Print/Type)	Gloria Simmons	Date	09.25.03
Signature	<i>Gloria Simmons</i>		

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket No.
050324-1160

Commissioner for Patents
Mail Stop RCE
P.O. Box 1450
Alexandria, VA 22313-1450

In re Application of: **Hawks, et al.**

Application Number: **09/413,552**

Filed: **October 6, 1999**

For: **Method and Apparatus Suitable for Forming a Microelectronic Device**

Package

Group Art Unit: **2831**

Examiner: **Ngo, H.**



This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and appropriate non-small-entity fee are as follows:
(check time period desired):

- | | | |
|-------------------------------------|----------------------------------|-----------|
| <input checked="" type="checkbox"/> | One month (37 CFR 1.17(a)(1)) | \$ 55.00 |
| <input type="checkbox"/> | Two months (37 CFR 1.17(a)(2)) | \$ 205.00 |
| <input type="checkbox"/> | Three months (37 CFR 1.17(a)(3)) | \$ 465.00 |
| <input type="checkbox"/> | Four months (37 CFR 1.17(a)(4)) | \$ 725.00 |
| <input type="checkbox"/> | Five months (37 CFR 1.17(a)(5)) | \$ 985.00 |

- ☐ Payment of the Extension of Time appears in the enclosed Amendment Transmittal Letter. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account pursuant to 37 CFR 1.25.

- OR -

- ☒ Payment is enclosed as follows:
- ☐ A check in the amount of _____ enclosed.
 - ☒ Payment by credit card. Form PTO-2038 is attached in the amount of 795.00
 - ☐ The Commissioner has already been authorized to charge _____ to a Deposit Account
 - ☒ The Commissioner is hereby authorized to charge any deficiencies in fees, or credit any overpayment, to Deposit Account No. 20-0778. A duplicate copy is enclosed.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

9/25/3
Date

Scott A. Horstemeyer, Reg. No. 34,183

AMENDMENT TRANSMITTAL LETTER (LARGE)

Applicant(s): **Hawks, et al.**

Docket No.

050324-1160

Serial No.
09/413,552

Filing Date
October 6, 1999

Examiner
Ngo, H.

Confirmation No.
2160

Group Art Unit
2831

Invention: **Method and Apparatus Suitable for Forming a Microelectronic Device Package**

**Commissioner for Patents
Mail Stop RCE
P.O. Box 1450
Alexandria VA 22313-1450**

Transmitted herewith is a Response in the above-identified application.

The fee has been calculated and is transmitted as shown below

CLAIMS AS AMENDED

	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST # PREV. PAID FOR	NUMBER EXTRA CLAIMS PRESENT	RATE	ADDITIONAL FEE
TOTAL CLAIMS	16 -	53 =	0	X \$18.00	\$ 0.00
INDEP. CLAIMS	3 -	3 =	0	X \$84.00	\$ 0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$140.00
EXTENSION FEE	1 ST MONTH <input checked="" type="checkbox"/> 55.00	2 ND MONTH <input type="checkbox"/> 205.00	3 RD MONTH <input type="checkbox"/> 465.00	4 TH MONTH <input type="checkbox"/> 725.00	\$ 55.00
Other Fees: Request for Continued Examination					\$740.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					\$795.00

- ☐ No additional fee is required for the type of document.
- ☐ Please charge Deposit Account No. _____ in the amount of _____
- ☐ A check in the amount of _____ to cover the filing fee is enclosed. A duplicate copy of this page is enclosed.
- ☒ A Credit Card Payment Form PTO-2038 is attached in the amount of \$795.00.
- ☒ The Director is hereby authorized to charge any deficiencies of the above fees or credit any overpayment to Deposit Account No. 20-0778. A duplicate copy of this page is enclosed.


Scott A. Horstemyer, Reg. No. 34183

09/25/03
Date



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re: Application of:

Hawks, et al.

Serial No.: **09/413,552**

Filed: **October 6, 1999**

For: **Method and Apparatus Suitable
for Forming a Microelectronic Device Package**

Confirmation No.: **2160**

Group Art Unit: **2831**

Examiner: **Ngo, H.**

Docket No. **050324-1160**

RESPONSE

Mail Stop: AF
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

The outstanding Advisory Action mailed August 18, 2003 (Paper No. 24) has been carefully considered. In response thereto, please enter the following amendments in which claim 28 is canceled. Claims 1, 2, 21-27, 29, and 31-36 are now pending in the present application.

In accordance with 37 U.S.C. §1.114, a Request for Continued Examination is filed concurrently with this Response to the Final Office Action so that the Office Action mailed April 28, 2003, (Paper No. 20) is effectively made non-final. Reconsideration and allowance of the application and presently pending claims, as amended, are respectfully requested.

AUTHORIZATION TO DEBIT ACCOUNT

It is believed that only a one-month extension of time is required. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to deposit account no. 20-0778.

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as indicated hereafter. It is believed that the following amendments and additions add no new matter to the present application.

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereafter.

Claims:

1. (Previously Presented) A microelectronic device package comprising:
a die attach pad, said pad having a bottom surface;
a plurality of substantially flat electrical connectors formed about a perimeter of said die attach pad, wherein said connectors are configured to couple a device to a substrate;
a coupling of a plurality of wires from said device package to one of said connectors; and
an encapsulant surrounding a portion of said electrical connectors and a portion of said die attach pad, wherein said bottom surface of said die attach pad is substantially free of encapsulant.
2. (Previously Presented) The microelectronic device package according to claim 1, wherein said connectors and said pad are formed from a leadframe.
- 3-20. (Cancelled)
21. (Previously Presented) The microelectronic device package according to claim 1, wherein said pad is not offset from said connectors.
22. (Previously Presented) The microelectronic device package according to claim 1, wherein said pad is configured to mechanically bond to a device.
23. (Previously Presented) The microelectronic device package according to claim 1, wherein said wire is formed of gold wire having a diameter of approximately 25 microns.

24. (Previously Presented) The microelectronic device package according to claim 1, wherein bottom surface of said connectors is substantially free of encapsulant.

25. (Previously Presented) The microelectronic device package according to claim 1, wherein said encapsulant is epoxy resin.

26. (Previously Presented) The microelectronic device package according to claim 1, wherein the conductive path length through said connector is the thickness of said connector.

27. (Previously Presented) The microelectronic device package according to claim 2, wherein said connectors and said die pad feature undercut regions to assist in attachment of said encapsulant.

28. (Cancelled)

29. (Previously Presented) The microelectronic device package according to claim 1, wherein portions of a device are electronically coupled to said die pad.

30. (Cancelled)

31. (Previously Presented) The microelectronic device package according to claim 1, wherein said connectors are formed from a metal frame.

32. (Previously Presented) The microelectronic device package according to claim 1, wherein said pad is formed from a metal frame.

33. (Currently Amended) The microelectronic device package according to claim 31 or 32, wherein said frame is formed of copper.

34. (Currently Amended) The microelectronic device package according to claim 31 or 32, wherein said frame is formed of a copper metal sheet having a thickness of approximately 200 microns.

35. (Previously Presented) The microelectronic device package according to claim 31, wherein said frame is coated with about 10 micro inches of palladium.

36. (Previously Presented) The microelectronic device package according to claim 22, wherein said device is bonded to said pad using conductive epoxy.

37-53. (Cancelled)

REMARKS1. Present Status of Patent Application

This is a full response to the outstanding final Office Action, mailed April 28, 2003. Reconsideration and allowance of the application and presently pending claims 1, 2, 21-27, 29, and 31-36 are respectfully requested. Claim 28 has been cancelled without prejudice, waiver, or disclaimer.

2. Response to Rejections of Claims 1, 2, 21, 22, 24-27, 29, and 31-33 Under 35 U.S.C. §102(e)

Claims 1, 2, 21, 22, 24-27, 29, and 31-33 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by *Glenn* (U.S. Patent No. 6,143,981). In addition, claims 1 and 22 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by *Yagi* (U.S. Patent No. 6,201,292). For a proper rejection of a claim under 35 U.S.C. Section 102(e), the cited reference must disclose all elements/features/steps of the claim. See, e.g., *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 USPQ2d 1129 (Fed. Cir. 1988).

a. Claim 1

As provided in independent claim 1, as amended, Applicants claim:

1. A microelectronic device package comprising:
 - a die attach pad, said pad having a bottom surface;
 - a plurality of substantially flat electrical connectors formed about a perimeter of said die attach pad, wherein said connectors are configured to couple a device to a substrate;
 - a coupling of a plurality of wires from said device package to one of said connectors;*** and
 - an encapsulant surrounding a portion of said electrical connectors and a portion of said die attach pad, wherein said bottom surface of said die attach pad is substantially free of encapsulant.

(Emphasis added).

Applicants respectfully submit that independent claim 1, as amended, is allowable for at least the reason that *Glenn* does not disclose, teach, or suggest anywhere in the specification or in the

figures at least the feature of “a coupling of a plurality of wires from said device package to one of said connectors” as recited in claim 1. To illustrate, the present application states that any number of input/output regions may be coupled to any number of connectors. For example, three device input/output regions may be coupled to a single connector. Page 9, lines 6-8.

Glenn, however, is apparently limited to an electronic module whose individual contact members provide contact points for individual wires. As expressly stated in *Glenn*, [b]ond wire 58 electrically connects individual bonding pads 56a of die 56 to individual contacts 53. (Col. 9, Lines 33-36). Correspondingly, the figures in *Glenn* disclose only one wire 58 being connected to one connector 55. Therefore, *Glenn* fails to disclose all the features of claim 1.

Since anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice, Applicants respectfully assert that *Glenn* does not anticipate independent claim 1 and request that the rejection of this claim be withdrawn. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ 2d 1321 (Fed. Cir. 1992).

Further, Applicants respectfully submit that independent claim 1, as amended, is allowable for at least the reason that *Yagi* does not disclose, teach, or suggest anywhere in the specification or in the figures at least the feature of “a coupling of a plurality of wires from said device package to one of said connectors” as recited in claim 1. For example, the figures in *Yagi* disclose only one wire 18 being connected to one connector. *See, e.g., FIG. 9.* For the reasons noted above, Applicants respectfully assert that *Yagi* does not anticipate independent claim 1 and request that the rejection of this claim be withdrawn.

b. Claims 2, 21-22, 24-27, 29, and 31-33

Because independent claim 1 is believed to be allowable over the prior art of record, dependent claims 2, 21-22, 24-29, and 31-33 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that dependent claims 21-22, 24-29, and 31-33 contain all the features and elements of independent claim 1.

3. Response to Rejections of Claims 23, 34, and 36 Under 35 U.S.C. §103(a)

Claims 23 and 34 have been rejected under 35 U.S.C. §103(a) as being purportedly unpatentable over *Glenn*. In addition, claim 36 has been rejected under 35 U.S.C. §103(a) as being purportedly unpatentable over *Yagi*. It is well established at law that, for a proper rejection of a claim under 35 U.S.C. § 103 as being obvious based upon prior art, the prior art must disclose, teach, or suggest, either implicitly, all elements/features/steps of the claim at issue. *See, e.g., In re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988); *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

Because independent claim 1 is believed to be allowable over the prior art of record, dependent claims 23, 34, and 36 (which depend from independent claim 1) are allowable as a matter of law for at least the reason that the dependent claims 23, 34, and 36 contain all the features and elements of independent claim 1.

CONCLUSION

For at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1, 2, 21-27, 29, and 31-36 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

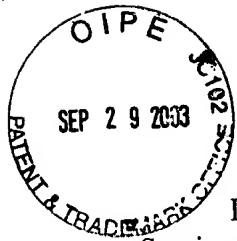
Respectfully submitted,



Charles W. Griggers, Reg. No. 47,283

**THOMAS, KAYDEN,
HORSTEMEYER & RISLEY, L.L.P.**

Suite 1750
100 Galleria Parkway N.W.
Atlanta, Georgia 30339
(770) 933-9500



CERTIFICATE OF MAILING

RCE/2800
93

I hereby certify that the below listed items are being deposited with the U.S. Postal Service as first class mail in an envelope addressed to:

**Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450**

on 09.25.03

Gloria Simmons
Gloria Simmons

In Re Application of:

Hawks, et al.

Serial No.: 09/413,552

Filed: October 6, 1999

Confirmation No.: 2160

Group Art Unit: 2831

Examiner: Ngo, H.

Docket No.: 050324-1160

For: **Method and Apparatus Suitable for Forming a Microelectronic Device Package**

The following is a list of documents enclosed:

Return Postcard
Response
Amendment Transmittal Sheet
Request for Continued Examination
Petition for Extension of Time
Credit Card Authorization Form in the amount of \$795.00 for filing fee(s)

Further, the Commissioner is authorized to charge Deposit Account No. 20-0778 for any additional fees required. The Commissioner is requested to credit any excess fee paid to Deposit Account No. 20-0778.